

Mussey (W. H.)

A CASE
OF
FRACTURE OF THE OS INNOMINATUM;
AND
Death in connection with the Administration of Sulphuric Ether.

[Communicated to the Academy of Medicine of Cincinnati.*]

BY W. H. MUSSEY, SURGEON. ✓

ON Friday, November 30, 1860, I was called to Lebanon, Ohio, to see a man who had been injured the day previous, and reached his house at 7 P. M.

In consultation with Dr. J. Vanharlingen and Dr. Robert Vanharlingen, I ascertained that the patient, Jacob Koogle, aged fifty years, had, thirty hours previously, been overturned in his buggy. His horse had slipped on the road and fallen; on rising he gave a leap forward diagonally across the road, overturning the buggy, throwing Mr. Koogle upon his right side, and dragging him about thirty feet, when he rolled down a bank about eight feet; his wife, weighing two hundred and five pounds, fell upon him, but was dragged only twenty feet, and escaped with severe but not serious contusions. Mr. Koogle weighed two hundred and thirty pounds, and was occasionally addicted to the intemperate use of intoxicating drinks. About ten days previous to this occasion he had a spree (the only one for a year), and had been quite sick in the recovery.

When friends (who were returning from the same Thanksgiving service in Church that Mr. and Mrs. Koogle had attended,) reached Mr. K., he had raised himself on his hands and knees, but could rise no further, though he made three efforts to do so, before he was reached by his nephew, D. M. James, who, on assisting to raise him, found he had no use of the right thigh and leg. He exclaimed that "his testicle was mashed,"—but immediately complained of his hip joint, and suffered excruciatingly in the groin and thigh. In a half hour he was placed in a wagon, on his face, as the most easy position, and taken to his home, one mile distant; in the same position he was placed upon his bed, and remained so till Dr. J. Vanharlingen reached him, two and a half hours from the time the injury was received. The patient had suffered intensely from the time of the

22951
Washington, D.C.

accident, with occasionally violent spasmodic movement of the limb. The Doctor had the patient placed upon his back, when he was somewhat relieved; but he could not bear any movement of the limb, and the "spasms" continued at short intervals. Soon after being turned in bed he became "frighty," and did not know exactly what he was doing. This passed off in a short time, and the Doctor administered morphine, in quarter-grain doses; the whole amount taken in the thirty hours did not exceed four grains. Though some relief was experienced, some one was obliged to hold the limb firmly upon the bed continuously, as the "spasms" came on every ten, fifteen or twenty minutes; occasionally there would be a respite of half an hour, and sometimes there would be three or four "spells" in a period of twenty minutes.

These "spasms" would commence with jerking of the foot, slowly at first, and increase in rapidity for three or four minutes, before the paroxysms of pain would seize the thigh and hip, when the suffering for a few minutes would be agonizing. On passing off, the hip was sensitive, and any pressure would excite the violence of the pain.

The Doctor noticed the limb to be an inch and a quarter shorter than the other, and the foot was slightly everted; but as he could not move the limb at all without causing suffering, he concluded not to make manipulations till a consultation could be held.

In order to proceed with the investigation without causing suffering, I proposed to administer pure washed sulphuric ether, as the unanimous opinion was that chloroform would not do for this patient.

The patient was lying on his back, with his head low, slightly raised above the level of the back; his feet touching the rounds at the foot of the bed, and heels resting on the bed; the left limb moving at will, the right held down by one of the family; the right limb shorter by an inch and a quarter, and the foot slightly everted.

I examined the heart, and noticed a perfect regularity in its action, of moderate force, with indistinctness of sounds, which I attributed to the distance from the ear, on account of the superimposed adipose tissue. The pulse was soft, of moderate force and fullness, and by estimation, seventy-five to the minute.

The ether acted kindly, and was breathed easily; it stimulated the pulse to increased force and fullness, with at first a considerable increase in the frequency, which subsided, however, in a few minutes, to the original point.

In the course of ten minutes the patient raised up, attempted vomiting, and succeeded in throwing off about two ounces of fluid; five or

six minutes later he again raised on the left arm and vomited about one pint of dark colored watery fluid ; no blood or food was mixed with it. On lying down the pulse was more feeble, and a profuse perspiration was noticed upon the body. Dr. J. Vanharlingen says he noticed the perspiration before the vomiting.

Dr. Robert Vanharlingen noticed during the effort of vomiting that the patient moved and flexed, with apparent ease, the affected limb. On lying down the patient was apparently relieved, and as the pulse became fuller, the administration of ether was resumed, and the fullness and force of the pulse was maintained till within ten minutes from the time of vomiting, when the patient was in a condition to admit of manipulation with the limb.

I took hold of it and flexed the leg upon the thigh, and the thigh upon the pelvis, and rotated the limb till I was convinced there was no dislocation or solution of continuity of the thigh bone ; but twice I perceived a distinct rubbing sound like crepitation. Dr. J. Vanharlingen also noticed this peculiarity.

At the time of seizing the limb for examination there was a peculiar shortness of breath, of an asthmatic character, and Dr. J. Vanharlingen remarked that he was subject to attacks of asthma. On noticing this peculiarity, the use of ether was suspended, and not resumed ; but the manipulation was proceeded with,—the patient screaming out and writhing with pain, and apparently perfectly conscious. Seeing that his lips were purplish, and his breathing still very short, I proceeded to administer for his relief: he called for water,—a little was given him, and a little vinegar was put in it, when some whisky was procured and administered in warm water ; but little, however, was taken. The patient complained that he was suffocating, and the tongue was drawn out, though there was no lack of control of it, as he put it out to take the stimulants. He was rolled upon the side ; water was thrown in his face,—first cold, then hot water applied to the forehead. The Marshall Hall method of artificial respiration, and the additional one of inflating the lungs from my own lungs with forced expulsion of air, and flaggellation of buttocks, were continued fifteen or twenty minutes, when the patient was abandoned as dead.

The ether was from the manufactory of Powers & Weightman, Philadelphia. By measurement, four ounces of ether was used. I administered it myself upon a handkerchief, placed in a towel, folded funnel-shaped, and there was a large admixture of air. I watched the breathing, and frequently noticed the pulse, though the Drs. Vanharlingen each had a wrist in hand.

The patient had eaten a little bread and tea during the forenoon, which was all he had taken since the breakfast of Thursday.

The consent of the family was obtained to a post-mortem examination, on the positive assurance of Drs. Vanharlingen and myself, that some internal injury had been received as the real cause of death ; and I remained over the night, in order to conduct it in the presence of the physicians of Lebanon.

In relation to the shortness of the limb, I learned that Mr. Koogle, when nineteen years of age, had been thrown from a horse, and hurt his right hip, and had always had a shortened limb since.

This account was written previous to the autopsy.

Post-Mortem Examination :

Fourteen hours after death. Assisted by Drs. J. Vanharlingen and I. L. Drake.

The record made by Dr. Robert Vanharlingen. Drs. Joshua Stevens, Adam Sellers, and James, of Lebanon, with a number of the family friends, present.

External appearances.—General ecchymosis of the face, neck, superior portion of breast, sides and back of body. Abdomen distended, and slightly tympanitic. Left inferior extremity one and one-fourth inch shorter than the right.

An incision was made in the skin from the top of the sternum, along the median line to the umbilicus, thence to the crest of either ilium. Thickness of the adipose tissue along the line of incision over the abdomen, two inches ; muscular walls of abdomen thin ; omentum loaded with fat ; appearances of the intestines natural, not much distension with gas. On raising the inferior flap, infiltration of blood was observed upon it, and in the pelvic surface that was visible ; omentum adherent to the peritoneum on the left side ; spleen, natural appearance, but adherent to the peritoneum ; the viscera enveloped with fat ; right kidney of unusual size, two-thirds larger than natural, highly engorged with blood and in good condition ; urethra normal ; left kidney wanting, or in its position the fat inclosed a single membrane of a dark brown color, and the thickness of coarse paper, of about three square inches in extent. Pancreas natural. Liver enlarged, smooth, of a light color, slightly engorged, and of softened texture, breaking down easily between the fingers. Stomach containing but little fluid, of a brownish color. The cardiac, two-thirds was beautifully mottled in purple and shades of red, in annular patches three-fourths or an inch in diameter.

On removing the intestines to within ten inches of the sigmoid flexure of the colon, a space of six inches in diameter in the right

iliac and lumbar regions was discovered, blackened and purple with infiltrated blood; this extended anteriorly and superiorly upon the wall of the abdomen. On changing the position of the intestines this infiltration was observed to have extended through the entire pelvic cavity. Beneath the pelvic fascia there was a large deposit of venous clot, extending on the right side under Poupart's ligament into the femoral canal.



An unavailing search was made to determine what vessel had been ruptured. Upon removal of the soft parts from the pelvis, a fracture was noticed in the ilium, commencing half an inch below the sacro-

iliac junction, extending one and three-quarters of an inch outwardly into the iliac fossa; from the same point, extending anteriorly four inches to within three-fourths of an inch of the symphysis pubis; inside of and under the ileo-pectineal line is a fracture with a separation of fragments, varying from three-eighths to three-quarters of an inch; from the termining of this fracture near the symphysis pubis, extending obliquely outwards two inches to the acetabulum, is a fracture separating the pubic bone; the rami of the pubis and ischium are broken.

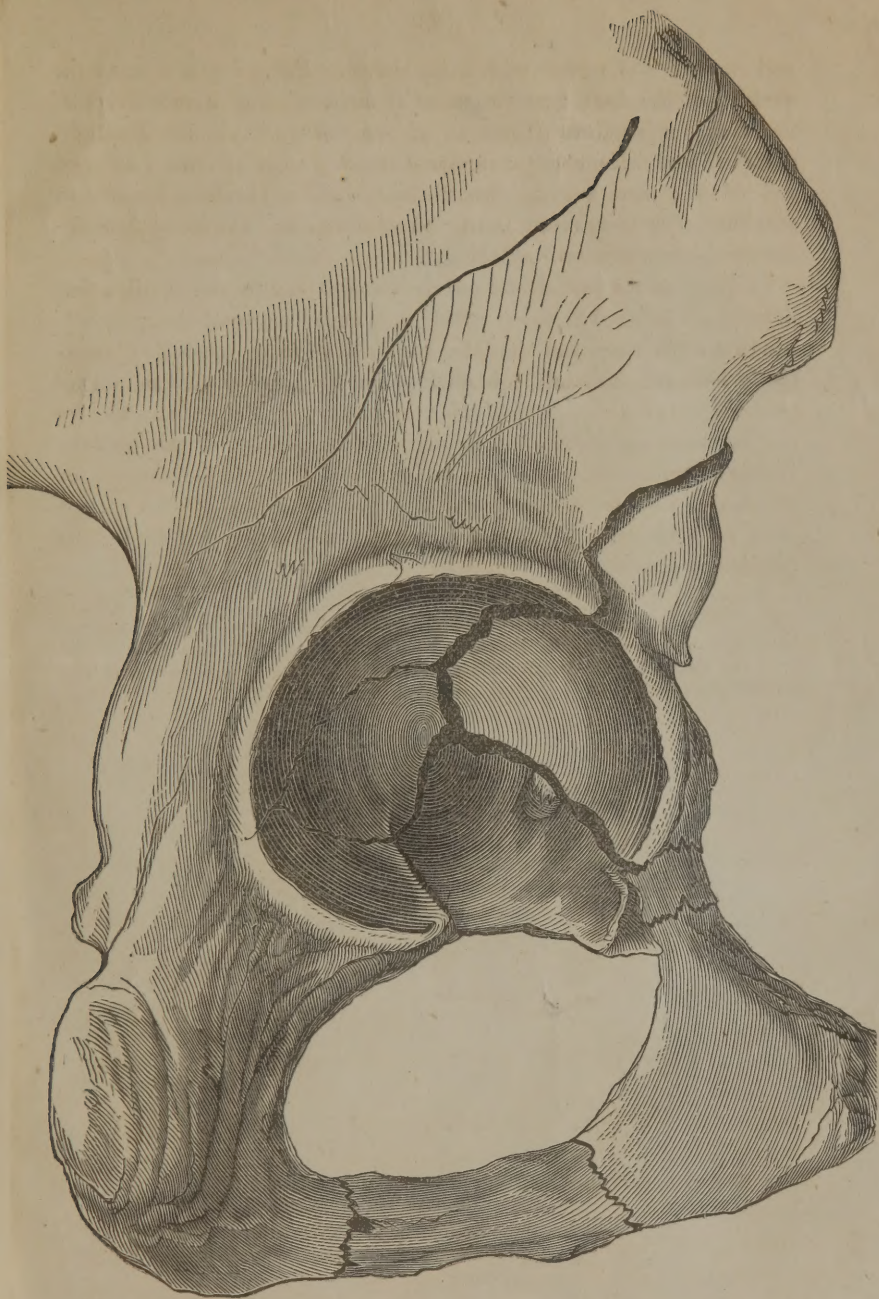
Externally, a fracture seven inches in length traverses the ilium. The acetabulum is badly broken, as will be seen by the cut. The



[The Engraver had only time to give an outline of this bone.]

head of the femur is at nearly a right angle to the shaft. It will be noticed that the line of the articulating surface extends much further upon the neck at one point than usual. There is no evidence of recent injury to the neck of the bone; but at the time of the fall, at the age of nineteen, there was probably impacted fracture or the bending of the neck at its connexion with the shaft.

Thorax — Large adipose deposit upon and around the pericardium,



and one ounce of serum within its cavity. Fatty deposits upon the auricles of the heart; no structural disease, other than an absence of the usual redness and firmness of the tissue; blood in the right auricle; ventricles empty; lungs distended with air, and engorged with blood; there were no pleuritic adhesions or anything unusual in structure. There was no examination of the brain. The blood throughout the body was very dark colored.

In view of the case, I did not hesitate to say to the family, that there were internal injuries sufficient to have destroyed the patient's life in a short time, but that the administration of ether had apparently hastened the result, though I was of the opinion that the manipulation with the limb *without ether* might have been attended with like consequences, on account of the extreme irritability of the nervous system—amounting almost to tetanus,—and the feeble powers of resistance, for which the constitutional peculiarities of the patient were accountable. This expression was fully concurred in by the physicians present.

NOTE.—A lengthy discussion arose in the Academy, occupying two evenings of its session, in which two members contended that the case was clearly one of death from ether. Of the remaining disputants, two thought ether possibly auxiliary, while the majority considered ether not at all responsible.